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ABSTRACT

In this working paper of the National Seminar on the Diffusion of New Instructional Materials and Practices individual conference participants answer this question: What are the characteristics of educational products that make them more or less likely to be diffused? Responses focus on considerations related to size of the product, cost, complexity of the product, its utility for teachers, durability, the product's listing on state adoption lists and other factors. Related documents are SO 006 339 through SO 006 344. (SHM)

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3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

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3.0 Product Characteristics: What are the characteristics of educational products that make them more or less likely to be diffused?

In answering this question I will speak the point of view of an outsider interacting closely with a primary dissemination agent of educational products, the sales representatives of publishers. Also, I am speaking from my point of view of interaction with sales personnel of social science education products.

One problem is the presumed length of time of use of educational products. For example, a salesman will say that social studies curriculum package X should be used throughout grades 1-6. That salesman convinces the buyer that this is the thing to do. The buyer in turn reports that information to his superior. The superior is convinced of the worthiness of a 1-6 program. This might be because some teacher educator that the superior had some time in the past said a 1-6 program was worthy. It is not unlikely that the teacher educator listened to some salesman once upon a time. So the buyer buys a complete 1-6 series.

In short, the process seems circular. Those in teacher education think that there ought to be some sort of tightly structured series. They tell their students the same thing. Their students then come into a position where they are buyers. The sellers know from both educational experience and practical experience that this is the case. The sellers tell the developers that this is the case. In turn, the developers develop the series. The seller sells the series; the buyers buy the series; and the circular process continues. If a social studies supervisor would set out the six or seven of the more popular series of materials on the surface the materials probably would not seem very different. They would be Families for the first grade, neighborhoods for the second grade, communities for the

third grade, states or regions for the fourth grade, the United States or United States History for the fifth grade, and some kind of area studies in the sixth grade. The problem seems to be to decide among the best series, rather than deciding among the best materials. If we continue to put ourselves in that trap, we have limited our selection. For example, the Senesh materials may be appropriate for grades one and two, the Taba materials for grades three and four, and the Harcourt Brace materials appropriate for five and six. Yet, few materials selectors seem to think of material selection in this way.

Another problem is cost. It seems that we often think about cost of materials on a per pupil basis. That is, if we buy so many units of some product, it will cost $X per pupil. We also think in terms of length of use. That is, how long is that pupil going to use the materials? I'm sure that administrators in school districts do figure out how many students are going to use an educational product over some period of time. If we spread the cost of a $5 book over a 5 year period, the cost is $1.00 per pupil per year. This seems to be a very low cost, and is a nice thing to report to a school board.

Following Sputnik it is pretty evident that for physical and natural science materials, as well as mathematics materials, we spend much more than $1 per pupil per year for materials. This does not seem to be the case regarding social science materials. Two examples come to mind. One is the Boston Children's Museum MATCH Kits; the other is the elementary school Data Bank published by Holt, Rinehart and Winston. In many cases these materials are rejected out of hand because of their apparent high cost. Very few of the users that I have come into contact with have considered

the possibility of rotating these materials through a number of classes in a given year. This is in spite of the thrust of non-print media educators who encourage multiple use of resources throughout a given school year. Perhaps this narrow perspective on cost is the result of a long lived text-book syndrome which seems to prevail in our school system.

A third problem has to do with adoption procedures. In my contact with national and regional sales representatives of major publishing firms, one predominant statement is that if you can get on the adoption lists of California, Indiana, Texas and Florida you don't have to worry about selling another book any place else. Many regional or local salesmen indicate that if they can get their products on the adoption lists of Nevada, Montana, Oregon, and some other states that they don't have to pay attention to anybody in a local school district. They are going to sell their product. One upshot of the state adoption procedures is that publishers have put themselves in a non-innovative position. All they have to do is deal with the person in a state department who may or may not be interested in innovation in order to sell books. Of course if sales personnel are eager beavers they will move beyond the state department. Consider this position. "I have a territory where I can sell through the state department enough books to give me an income of $20,000 a year. Why should I mess around with increasing my income slightly given the amount of energy that I have to put out in order to sell books in Podunk?"

A fourth problem has to deal with the general aesthetic view that purchasers of materials seem to have of products. We all know that educational products need to have some aesthetic appeal. However, surely we need to go beyond the aesthetics. All too often, it seems to me, we get wound up in the beauty of the pictures or the size of the print in materials without considering how the pictures relate to the content being studied or whether

print size has anything to do with what the students are capable of reading. It seems to me that one honest, forthright way to sell educational products (I am thinking of print products in combination with non-print products) would be to provide a materials selector with a tool to assess the reading level. Another aid would be to provide an analyst with a means of quickly finding out whether the pictoral materials have anything to do with the content. (Almost too often, pictoral materials only deal with a superficial matter--students are required to take a look at the pictures but they don't really have to learn anything from them.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 Small unit projects are less likely to be diffused because it is difficult for people to learn about them. Generally, the larger the project, the more publicity it gets. In elementary grades a full 1-6 series is evidently essential; at the higher grades a one semester program is adequate. This is not to say that teachers do not want the shorter units. They do, but they have to be able to find out about them. This suggests the need for modules

organized into programs for the upper grades.

3.2 What are some of the dimensions of cost that affect the sale of a product? Evidently this is a major consideration now. Atleast, in designing our project it was necessary to design mainly reusable written matter--no workbooks or other material which had to be purchased for each student.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use? Again, the simpler the better. The Taba elementary social studies program has suffered from teachers' fears that they could not use the teaching strategies and, to some extent, from the teachers' guides which were not simple enough to use easily. Publishers put a major emphasis on simplicity of student material (book) format, and short, concisely written teachers' materials. The materials must be comprehensible to the students--easy to use. The teaching techniques must be relatively easy for teachers to use.

3.4 If the product makes the teacher's job easier, what effect does this have on its use? This is a major attribute of a successful program, possibly a fault of some of the curriculum projects. Teacher prep time should not be lengthened; if possible, it should be shortened. Furthermore, use of programmed instruction modules or games can take the pressure off the teacher to prepare lectures or to perform, particularly in subjects which the teachers find hard to get across to students. This may be particularly important for elementary teachers, but holds true throughout the grades.

3.0 "Product Characteristics: What are the characteristics of educational products that make them more or less likely to be diffused?"

In our work the size of the product is an important issue. Most of our packages are materials to be used in four or five day training workshops. We work at breaking down the designs so that there can be some flexibility in the use of the package. There are limits for many of our packages because the training provides concepts and skills which are used together in an overall process. While each concept and skill might be learned individually, the Gestalt of the whole process is lost if the training design is too fractured. We have been working on these instructional systems for the past six years. Early in the history of the program, we were strongly advised that a four or five day workshop was too long. For preservice and inservice training of teachers we have found that this is not the case. As people have become familiar with our products, diffusion is becoming impressive despite the predictions that this could not be. For example, over a third of the educators in the five Northwest states to date have gone through training using one or another of our products. Large scale diffusions are occurring in other areas such as Minnesota, Florida and California. If a training package is effective in meeting a real need, with immediate applicability, in a comparatively cost-effective way, we find that people make the time to use it. It should be noted that this is more difficult in the case of school administrators. Some of our training systems take two weeks or a sequence of five 2-day meetings spread over several months. It seems especially difficult for school administrators to find a two week block of time other than in the summer. Here again, as our products become known we are finding that administrators are

making this time. Recognizing that the making of such time is a difficult issue, we do the best we can to make it possible to use a package as flexible time wise as possible consistent with the objectives of the training.

We have found that the cost of the training package is a very important issue. We have found that most of the major publishers do not seem to believe that wide scale dissemination of our kind of training packages is feasible. They therefore want to charge a high cost for materials and for installation and make their profit from a small number of installations. They don't yet seem willing to trust that the low cost of material which can make possible use of the product by many small systems can bring a profit. Because our training designs make it relatively easy for persons to conduct a workshop even when they are not experts at the process being taught or in conducting process training, we found that we can get good trainee results at a comparatively low cost for diffusion. That is to say, when the design and nature of the materials make it possible for many persons who have gone through the training to turn around and conduct it the cost of startup workshops can stay low. New users don't have to get a high cost expert to come in and do the training. We have found small publishing firms who are willing to print and sell the materials at a low profit margin. Generally speaking, our experience has been that this kind of a package diffuses rapidly when participant materials cost no more than $10 or $12 per individual. A higher cost for reusable audio visuals and instructional leader guides has been acceptable.

The complexity of the product also seems very important. As already noted, the requirement we place on ourselves is to put the expertise into the materials rather than leaving it in the hands of the person that conducts the workshop. The designs call for individuals training themselves and each other while guided through the instructions for each exercise by a workshop leader. There is a trade off in this kind of design which should be noted. We achieve a training design which is simple to conduct. This seems important for diffusion. At the same time, we lose the possibility of an instructional leader varying the design to better meet individual differences of participants going through a workshop. Relevance is lost for some individuals with such a structured design. The gain is in diffusion of a simple level of training that meets a high percentage of participant needs and the rapid dissemination of these training products. While the training might better meet needs of all individuals if conducted by an expert who could be more flexible, our packages make it feasible for teachers in Two Dot, Montana and Nome, Alaska to get it now rather than having to wait another 20 years.

To the extent that training from our products makes the teachers job easier, diffusion of their use has increased. We have attempted to focus on immediately applicable techniques and skills in our work. We have stayed away from complicated and expensive technology both in the training provided by our packages and the new capabilities teachers and administrators can apply as outcomes of going through the training. Some of our systems do give capabilities that would enable a teacher or administrator to provide functions beyond their present job expectations.

This can create tension for them. We sometimes get backlash from workshop participants who feel they have wound up "learning more than they cared to about penguins." One further note should be made. Training using our kind of product is likely to enable the teachers job to be different. Different doesn't necessarily mean easier. We find that teachers and administrators are sometimes happy to work as hard or harder if use of the product means that they are better able to see ways in which they are being effective. Again, this is counter to some of the early predictions that were made about our work. Some critics did not believe educators would be willing to pay the costs of assuming more responsiblility and putting in more energy implied by processes we are providing training in. What they seem to have overlooked is that cost may be balanced out by effect.

Durability is not a major issue in the kind of product we are developing. Also, the idea of being on a "state adoption list" has not been much of an issue to us up until now. Personnel in several different state departments have become active in helping develop and in disseminating some of our products. This has been a great aid. As our products are primarily for the training of educators including state department of education personnel and university personnel who use them with school district personnel, being on "state adoption lists" has not been a major factor inhibiting dissemination and installation. It looks to us as though it could aid such dissemination if coupled with individuals being personally active in diffusion efforts.

3.0 Product Characteristics. What are the characteristics of educational products that make them more or less likely to be diffused?

3.1 What does the size of the product have to do with its likelihood of being used? (Small one-week program; full-year program; complete series--K-6, etc.)?

With respect to the newness of the subject matter (1.0), I suspect that small-size programs are more widely adopted than large ones, but also have less staying power. "Easy come, easy go." In any case, they cannot have a great deal of influence on the education of a child unless they build a context of related small-scale programs. For example, Madison Project, or Illinois Math Project are good and well-liked, but do not cover enough of the math program by themselves. As more complete programs are formulated, that build in just a part of their features, they may be dropped. The alternative is the conscious development of a larger program that builds in these small-scale programs. Although

there are many E S S units, no child likes to use more than a few. Thus, this program may also lack effective coverage. In this, Science Curriculum Improvement Study and Science A Process Approach may have an advantage in providing a structured program. As an alternative approach, the U S M E S project intends to supply a fairly large core curriculum for natural and social sciences and math, and also to articulate them with the best features of other curriculum materials.

3.2 What are some of the dimensions of cost that affect the sale of a product?

This is clear. Any new expense (one that cannot be identified as replacing another accepted cost) represents a real barrier to the restricted budgets of almost all school districts. The only remedy here is a proven substantial increase in effectiveness Then the community may be willing to pay more since they feel sure that they will get more for their children.

3.3 How does the complexity of a product affects its adoption or adaptation for classroom use?

Certainly, complexity inhibits the rate of adoption. However, if the development effort tackles every aspect with imagination, then the resulting product may be attractive enough to overcome this obstacle.

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

It may make a worse product, used in a minimally effective way, by appealing to the lazy teacher. Programmed learning is a case in point. "Self-paced" may be another such example of computer-controlled learning, if it ever becomes cheap enough for wide adoption.

3.5 How does the durability of the product affect its adoption?

If this means physical durability of text or kits, I don't know the answer.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption of a product?

This is certainly an important factor for any larger program; it is less relevant for a small one.

3.7 Others

The product must show imagination, quality, and integrity. Although it may otherwise still receive wide adoption, it will be by those least qualified to sustain it.

3.1 I have seen programs of all lengths find their way into the schools so I do not believe that the size is a critical factor.

3.2 If a program does not cost the school anything, I have found that it is much more likely to be tried. This was the case for the SEED program which was widely implemented with outside funds and also a program we introduced in a pilot school this year for the pre-service training of teachers, which was funded by the NSF. It is then hoped that when outside funds dry up, the school system will want to continue the program with its own funds. This naturally hinges upon whether the materials or the program is attractive enough to warrant continuation.

3.4 In both the SEED program and our teacher training program, the classroom teacher was not inconvenienced but rather served as an observer. When the classroom teacher saw that these programsdid not threaten his/her position relative to the children anddid not burden him/her with extra work, he/she was willing to accept the new programs and was very cooperative.

3.5 Durability relates to cost, usually leading to savings which make a product more likely to be adopted. For example, IPI was a very costly program because the individualized mathematics workbooklets were discarded after use by one student. IMS used similar content but replaced the expendible workbooklets by laminated plastic sheets which could be used over many times. This was a big selling point for this program and Ginn and Co. is now taking advantage of the increased marketability of the more durable product.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelihood of being used? (small one week program, full year program, complete series -- K-6, etc.)?

In general, the smaller the size of the product the more likely it will be adopted. It is relatively easy to convince a teacher to use something that will make his class more interesting. A good film, an interesting game, an interesting document to stimulate discussion, these and other ideas are relatively easy to sell to teachers. They are ideas that can be plugged into nearly any course of study. The teacher does not have to engage in any fundamental re-examination of his goals. Moreover, adoption at this scale rarely requires the approval of others. On the other hand, a decision to adopt a K-6 social studies series or to change from one high school social studies program to another usually involves adoption committees, departmental decisions, perhaps even the approval of state adoption agencies.

3.2 What are some of the dimensions of cost that affect the sale of a product?

Cost is a very important element in a school's decision to adopt a product. When a teacher seeks to replace a traditional textbook with a new instructional program, school administrators need to be convinced that the per-pupil cost will be nearly the same. Schools ordinarily have limited resources for purchasing instructional materials. If the per-pupil cost of

a new program exceeds the amount that has been budgeted, it will be very difficult to convince the school to buy the program.

Another way cost shows up as an important factor is the discrepancy that exists between teachers' professed interest in paperbacks and what the schools actually purchase. In general, teachers claim to prefer paperbacks because they contribute to flexibility in the design of instructional programs. Nevertheless, whenever a product appears in both hardback and paperback versions, hardback sales regularly exceed paperback sales many times. Buyers for school systems understand that hardbacks outlast paperbacks and therefore provide more for the money. So much for flexibility.

Perhaps the most expensive of the new products to be produced in the social studies is the elementary school program, "Man: A Course of Study." It would seem to have everything going for it; it was well funded; it was able to attract very able people for the development task; it has been favorably received by leaders in education; and much has been spent on its diffusion. Nevertheless, if my information is accurate, reports regarding its use in schools are disappointing. While I have not studied the reasons for its adoption or non-adoption, I would guess that the principal factor has been the cost of the program. It is much less expensive for a school to use social studies programs provided by one or more of the textbook publishers than it is for the school to purchase MACOS. Indeed, I suspect that many of the early users of the program were helped by the availability of Federal funds. Once these funds are no longer available, schools are forced to make curricular decisions with the cost of the product clearly in mind.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use?

In general, the more simple the product, the more likely it is to be adopted. For example, teachers generally prefer role-play exercises to complex games and simulations, although the latter may actually have more to teach students in the long run. The problem with games and simulations is usually there are a number of rules and guidelines that must be absorbed before play can start. This requires a greater investment of time on the part of the teacher.

Developers also have learned that they must be cautious in their expectations regarding the availability of special equipment for teacher use. While nearly every school has a record player, it may involve much effort for a teacher to have the record player assigned to his classroom for a given day. Thus, the developer who has prepared a record as a basis for classroom instruction on a particular day may find that the product is not used because it is too much of a hassle for the teacher to get the record player. Teachers frequently demonstrate similar reluctance to use slide-tapes, because the equipment is not easily accessible. Apparently, the situation is somewhat different for overhead projects, because a major effort was made in the 1960's to put overhead projectors into every classroom. Moreover, the overhead projector is relatively easy to use, as compared to some other equipment. (Undoubtedly cost is one factor retarding the wide-spread use of computers for instructional purposes. But surely complexity would retard the use of computers, if the cost problem could be resolved.)

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

In general, a product that lightens the load for the teacher is more likely to be used than one that makes the teacher's job more difficult. Sixteen mm. films have long been popular with teachers because they are so easy to use. The film itself carries the instruction for the day. Many teachers prefer long films to short films so that all they need to do on a particular class day is to thread the projector and let it run throughout the period, assuming little responsibility for setting an instructional context for the film or for handling the discussion that might follow.

In testing American Political Behavior, we learned that we had to devise the materials in such a way as to make the teacher's job as easy as possible. For example, originally we had opportunities for the students to write short essays, either as application exercises or as examinations. Teachers were quick to complain about the amount of work we were expecting of them. When we shifted to the use of easy-to-check application exercises and multiple-choice variety examinations, the teachers quickly expressed their approval. A major problem for the developer of any instructional product is how to design the product in such a way that it instructs powerfully without demanding an excessive amount of time and energy on the part of the teachers.

3.5 How does the durability of the product affect its adoption?

This question is clearly linked to the question of cost referred to earlier. Product durability is of major importance to those who are responsible for purchases and budgets in school systems and state agencies.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption of a product?

Clearly, the answer to this question depends upon what the product is. If the product is a 16 mm. film, state adoption criteria probably do not apply. If, on the other hand, the product is an eleventh-grade program in American history, it is nearly impossible to have an effect within a state-adoption state unless you are on the state adoption list. Therefore, in a state like Texas that adopts five books for the eleventh-grade American history course, it is absolutely crucial for the developer that his product be listed among the five products if he expects it to be used in the State of Texas. In Texas, the state buys a book for each student who enrolls in the course. The state will only buy books that are listed on the state adoption list. Therefore, schools use the books purchased for them by the state.

Approximately one-half of the 50 states have some form of state adoption system. Nevertheless, among those states that have a state adoption system, there is enormous variety. In some cases, a state approves only a small number of books; in other cases, they list a large number of books. In some cases, the state buys the book for the school; in other cases the schools buy books, or each student buys his own books. Therefore, it is difficult

to generalize for all state adoption states. Nevertheless, it is safe to say that making the state adoption list is extremely important in every case where a state adoption list exists.

It is less important to be listed in a state guide. In my opinion, teachers pay little attention to state guides and are not likely to choose their books on the bases of references to them in state guides. On the other hand, if a state guide were developed which was based exactly on the organization of a new instructional program, clearly that would help the sale of the program. However, it is unlikely that this would happen, because it would raise questions about the objectivity of the guide's author.

3.7 Others

I think it is important that the product represent the leading ideas within a particular field without being presented in such a way as to make the teacher untrained in these ideas and approaches uncomfortable. This is a very difficult thing to do. While most teachers recognize and accept their responsibility to bring to their students the most recent ideas within a field, if the ideas are presented in such a way that they are likely to look foolish before their students, they will feel uncomfortable and are unlikely to use the new program.

Given two hypothetical programs, one that represents the leading ideas in a field but is boring to teach and a second that may not be as respectable as the first but instructionally exciting, I believe the teachers will ordinarily choose the second. The task for the developer is to provide the best possible content in the most instructionally exciting way possible.

Faced with the responsibility of maintaining student interest day after day, teachers are constantly on the lookout for approaches to instruction that will make their task more interesting and assure their survival. Therefore, those products that are fun to teach and interest students will do better than those that are merely important.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelihood of being used? (small one week program, full year program, complete series--K-6, etc.)?

My experience is limited to a range from small units of two or three days duration to full year programs. Naturally, it is easier to sell inexpensive "supplementary" materials than it is full programs. Products costing less than a thousand dollars can often be purchased by the local curriculum coordinator or deputy superintendent in charge of instruction. More expensive programs involving a full year of student work, however, require a school board decision. This, in itself, inhibits purchase. Nevertheless, the introduction of larger programs tend to have a much wider impact on the quality of schooling than smaller units.

3.2 What are some of the dimensions of cost that affect the sale of a product?

This varies with grade level, with more money available for upper grade students than lower grade students. At the elementary level a dollar per student per year per course is roughly what is allocated nationally. If costs rise substantially higer than that, it is very likely to affect purchase. The problem here is that most of the new flexible, highly inventive, multi-media programs tend to be far more expensive than traditional textbooks. This is a real barrier to widespread use.

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

I suspect that any such product would be a best seller.

3.5 How does the durability of the product affect its adoption?

State-adopted textbooks must pass certain requirements, such as tumbling tests, BMI specifications, etc., or they will not be considered for adoption at all. On the other hand, experimental programs which include disposable materials are finding increased acceptance in the schools. There is a definite trend towards wider use of disposal materials.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption of a product?

Being on the list is crucial to adoption. State textbook funds are available only for purchase of books on the adoption list. Many school systems are heavily dependent on these funds for purchase of instructional materials.

3.7 Others

I would say the main characteristic that makes an educational product likely to be adopted is the quality of the product, all other factors being equal.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 Smaller, short-term educational products are generally inexpensive in comparison with longer-term textbooks and curriculum programs. The former products, thus have the advantage of lower cost per pupil but the disadvantage of low durability. Textbooks appeal to school districts that rely on long-term adoption cycles, five years or so, mainly because of longer durability.

3.3 It seems logical to assume that more complex curriculum products would bring about a higher level of resistance to adoption. Teachers would resist materials that required them to make substantial changes in the ways that they conducted their classes.

3.4 The same judgment applied to the obverse situation--where a teacher's job is made easier by a curriculum innovation--would lead to the opposite conclusion; that resistance to adoption would be lowered.

3.5 The durability of curriculum materials is a concern more in the consideration for adoption of text materials, that is, those that are expected to be used for several years. Supplimentary curriculum materials, on the other hand, are not expected to last and durability is less important than other criteria.

3.6 It would seem that placement on a state adoption list, or being compatible with a state guide, would enhance the chances for adoption of a curriculum product.

3.0 PRODUCT CHARACTERISTICS: -10-

3.1 WHAT DOES THE SIZE OF THE PRODUCT HAVE TO DO WITH ITS LIKELIHOOD OF BEING USED?

I do not think the size of the product is particularly significant in determining the adoption in the classroom. Different schools have different needs; for example: some schools utilize the mini-course concept, whereas others use a quarterly system and others retain the semester system. The important aspect is whether or not the materials can readily be adopted into a teacher's own value construct and within the curriculua of the school. A review of the most successful curriculum materials will illustrate this point. The High School Geography Project is a large, complex package. It offers flexibility, but one of its primary strengths is that it can be used to supplement the boring, traditional Jr. High Geography course still offered in most junior high and high schools. On the other hand, the Sociological Resources For The Social Studies expisodes have also been successfully diffused at the high school level. These are short, one to two week units that can be "plugged in" to various courses throughout the social studies spectrum. Actually, the SRSS episodes seem to be more popular than the semester package Inquiries in Sociology text which was produced by the same developers and has essentially the same content. If I had to make a generalization I would argue that a "single text" type program is more likely to be adopted at the elementary level than a program which has many separate bits of material or books. This generalization, however, has several exceptions, including the Man: A Course Of Study materials from EDC. Conversely, at the high school level teachers and supervisors seem more willing to adopt a complex package including various tests, and other forms of media.

3.2 WHAT ARE SOME OF THE DIMENSIONS OF COST THAT AFFECT THE SALE OF A PRODUCT?

Cost is one of the primary factors affecting the diffusion of curriculum materials. During my year with the SSEC as a Teacher-Associate, school after school indicated they wished to adopt the High School Geography Project, Man: A Course of Study, or the anthropology materials from ACSP. However, the primary reason that prevented adoption was the fact that these three projects are all exceedingly expensive. Numerous teachers and supervisors wished that the MACOS films could be replicated in print form which would allow them to be sold at a more reasonable price. The Amherst series and the SRSS episodes, and the AEP Harvard series are all reasonably priced, as well as flexible. This is one of the most significant reasons for their successful diffusion throughout the nation.

3.3 HOW DOES THE COMPLEXITY OF A PRODUCT AFFECT ITS ADOPTION OR ADAPTATION FOR CLASSROOM USE?

The product's complexity obviously affects its adoption for classroom use. However, in those schools where serious efforts are made to revise social studies instructions, teachers are willing to spend the additional time necessary to effectively implement materials. Only when diffusion follows the manipulation model or is forced on teachers by supervisors or department chairman does the complexity issue prevent successful diffusion. Once again, HSGP and MACOS are extremely complex packages. Yet, they have been successful in those areas that are able to afford the relative high cost. This topic can be explored first by looking at the tremendous interest on the part of the social studies teachers in simulation games. Many of these are extremely complex and involve long hours of preparation for them to be used successfully. Yet, they are used

by teachers throughout the nation because they increase the enjoyment and effectiveness of social studies instruction.

3.4 IF THE PRODUCT MAKES THE TEACHER'S JOB EASIER, WHAT EFFECT DOES THIS HAVE ON ITS USE?

In my opinion, this question is not a valid one. I know of no commercially-available set of "new social studies" materials that actually make the teacher's job easier. It is far more difficult to simply have the students "read 20 pages and do the odd questions at the back of the chapter." In reviewing the SSEC's Data Book, I find no materials described that I feel would be less work for the teacher than the traditional manner of social studies instruction.

3.5 HOW DOES THE DURABILITY OF THE PRODUCT AFFECT ITS ADOPTION?

This is a difficult question. SRSS episodes have been successfully diffused even though their durability is questionable. The Amherst series and the American Education Harvard Series are also relatively flimsy. However, I think the question of durability has more impact on elementary selections than it does at the high school level. Last year I served as a consultant to a western Chicago suburb's elementary school curriculum selection committee. The second step in our process was to review the materials available from publishers and/or curriculum developers. Many of the teachers and especially the supervisors and principals considered durability one of their primary reasons for selection or rejection of the product. At the high school level the durability question appears to be less significant, although we have had some difficulty at Lake Park in ordering SRSS episodes year after year. We have reached the point of actually putting the episodes on reserve in our Resource Center rather than giving them to the students to keep for the duration of

the episode. This is a step backward, but one made necessary by continual reordering.

3.6 TO WHAT EXTENT DOES BEING ON A STATE ADOPTION LIST, OR BEING COMPATIBLE WITH A STATE GUIDE, AFFECT ADOPTION OF A PRODUCT?

Illinois does not have a state adoption list or even a state guide. However, in my discussions with curriculum developers it is apparent that to be listed on a state adoption guide can either make or break a product financially. Some schools can get around this problem by calling the materials "supplementary" but if it is an expensive program this is very difficult to do. In some states such as California and Texas, if materials are not placed on the state list it is very difficult for them to be successfully diffused.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelihood of being used? (small one week program, full year program, complete series--K-6, etc.)?

Any product to be used must find a place in the program of the school. How it expects to be used (alternative basal program, enrichment for some or all pupils, totally new area of study) will determine how decisions are made by the school regarding the product. There are advantages and disadvantages in all cases. If the design of the product itself and its developers do not define a place for it in the school, the likelihood of adoption is minimal. At the elementary school level, for example, short-term (weeks to a couple of months) products have not been very successful because the teacher is used to something that continues all year or the school simply does not notice week- or month-long changes. At the secondary level, however, this is possible as shown by schools which, for example, will adopt parts of a course or something like a BSCS laboratory block without the whole program. Designs are needed for integrating meaningful, valid, short-term changes into the ongoing structure of the elementary school. The out-of-class, individual-oriented "enrichment center" may be a valid design for accomplishing this objective.

3.2 What are some of the dimensions of cost that affect the sale of a product?

Obviously, the higher the cost, the more concerned people will

become with cost. However, the question is more complex. If the product costs virtually nothing to implement, there is a good chance its use will be trivial to the real power structure of the school system, and, therefore, it may disappear after a time. Another consideration regarding cost is related to the ratio between initial cost and cost of replenishing or continuing cost of the product. Schools frequently have special funds (federal, PTA, etc.) for one-time expenditures but shy away from programs with continuing significant costs.

Frequently ignored are the necessary initial and/or continuing teacher training costs necessary to meaningfully implement the product. If these are not provided for, the product may gain initial trial but will probably not persist in the system. All cost questions are very closely related to the political situation in the school system and the state and nation generally. The postsputnik push is, of course, the grossest example of this where products were adopted because of names which sounded right, but in subtler ways political considerations are a major factor in most school district financial decisions.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use?

Through printed materials, training programs or other means, how to use the product in the classroom needs to be communicated to the teacher and/or other users. If this is not done, the product will probably become a decoration on a shelf or in a closet.

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

Unable to react to this because of the ambiguous meaning of the term, easier. If one means to reduce the need for the teacher or "teacher-proof" the materials, I feel the whole attempt will be trivial or rather useless. A competent, knowledgeable teacher who sees his or her role as an organizer and facilitator of learning is essential if meaningful education is to take place. If building in ways of helping the teacher obtain feedback to aid in future instructional planning is what one means by "easier," then certainly this will increase long-term use of the product.

3.5 How does the durability of the product affect its adoption?

Somewhat. Schools are concerned with quality to some extent, but actually their standards, especially at the elementary level, are quite low.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption of a product?

It is most helpful especially at the elementary school level. It is probably necessary to make special plans and even commit needed resources to bring this about.

3.0 What are the characteristics of educational products that make them more or less likely to be diffused?

The factor of size is probably less important than the factor of completeness. If the product is perceived as completely satisfying a need, it is more likely to be adopted. In the case of the Programed Reading Tutorial, users demanded a three-year reading program (first through third grades). There is a comparable demand to prepare kindergarten and second grade programs similar to the current first grade Programed Math Tutorial.

Cost factors influencing implementation of a product include size of the initial investment but, of almost equal importance, the per-pupil cost over the life of the product including storage costs and costs for replacing consumable components of the product. It may be just as hazardous to underprice a product as to overprice it, however; our experience indicates that products supplied free or at low cost are not accepted as readily and are more likely to be ignored or misused. Low per-pupil cost of our product is one factor responsible for its wide acceptance.

Another factor influencing wide acceptance of our product is its simplicity. The more complex the product, we have found, the less likely it is to be adopted. Classroom teachers do not easily tolerate an increased workload and schools can not easily handle increases in paperwork or training expenses and clerical expenses. The classroom teacher is involved in our product only to the extent to which she wishes to be involved. Similarly, the amount of paperwork and clerical assistance involved depends only on the amount of record-keeping and testing required by the school.

The school is not likely to spend additional funds solely to make the teacher's job easier, however, since the teacher is paid a set amount whether the job is easy or difficult. The innovative product must produce positive effects on the child, whether cognitive or affective, or result in an overall

cost savings to the school. However, as mentioned before, if the product makes the teacher's job more difficult, it is less likely to be adopted successfully, regardless of other benefits. School administrators will acknowledge that the teacher will simply not use the product if they can avoid it and the school's investment will be a loss.

Durability of the product relates directly to the cost factor. Complete or even partial replacement of components obviously increases the cost of implementation and therefore limits the likelihood of adoption (or the likelihood of continued use). Even if cost were not a significant factor, difficulty in obtaining replacement components might be an inhibiting factor. Durability is not an important factor in implementation of our product.

If a product is made available through a commercial publisher, it is absolutely necessary to be placed on state adoption lists. It may be helpful but not necessary for the product to be compatible with state curriculum guides since schools may use other than state funds to purchase the product (for example, local funds, PTA funds or Title I funds) if it is perceived as meeting the needs of the school.

If, in addition to meeting cognitive goals a given product also achieves socially desirable changes related to behavior, motivation or personality development, there is increased likelihood of its adoption.

3. PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

The apparent popularity of modules on science topics would indicate that the size of the product may have something to do with the likelihood of its being used. Many of the modules presently being developed are appropriate for a two or three week period and can apparently be easily inserted into a curriculum project that is already on-going without major changes having to occur. When the size of the product is a lengthy one, such as a K-6 series, then the characteristics related more to the quality and to the implications of change enter in. This occurs since one is now considering a major outlay of funds and is about to establish a very basic part of the overall science or mathematics curriculum. It may be that the size does enter in even if only a short period of time is involved if there is a feeling that the status quo is going to be changed too drastically.

Dimensions of cost that affect the sale of a product are probably related to the possible source of the availability of funds. Again taking from experiences in science and mathematics it can be noted that in the early fifties little change in science and mathematics curriculum work was occuring because it was obvious that it would not only cost lots of money to switch to other textbooks and software but hardware, such as laboratory equipment, was very expensive. So little change occured. After the NDEA Act had been passed, the fact that funds were made available from the Federal government on a matching basis a large number of school districts suddenly found the additional monies when they thought they were going to get something for practically half-price. It may indicate that there is a need for some kinds of seed money to be available since this brings about an increased incentive to free up funds that apparently had not been available earlier.

If a product is a complex one it may affect the adoption of adaptation for classroom by the simple fact that the teachers, and then the students, may find it just too difficult to be readily understood. Here the question of "fear of the unknown" may enter into the situation. It then becomes essential that the product and

idea developers do have a close tie with classroom reality and with the true background and experience of the teachers whom they want to use their product.

From our involvement with classroom teachers, we feel that the most difficult aspect of science teaching at least is to find time to do well that which one has been trained to do. Any time a product does help a teacher get a job done more effectively and efficiently and give him more time to do his job, the assumption would be that it would stimulate the use of the product. But since so many other factors seem to enter into the adoption of adaptation of classroom materials, it is not necessarily a cause and effect situation. After a product has been used by a number of teachers and the word is out that it does make teaching easier, adoption comes much faster.

The durability of a product does affect its adoption but this may not be the best solution. In the case of science teaching equipment, it may be more expedient for financial reasons to have inexpensive laboratory equipment which while not durable in the long run may by its immediate use stimulate science laboratory investigations. If a great deal more money had to be laid out for more durable material the lab work might frequently be postponed. Also, in the case of the biological sciences it may be that some of the best teaching occurs with living organism material which one would not even consider durable, but which is mostly expendable. So that in these fields this question may not be so easily answered as in others.

There are even educators in the business who would feel that it would be good that a product not be too durable because it causes the curriculum to "solidify" and be less able to change when change would seem to be appropriate. This is true in expensive financial outlays for science furniture or laboratory equipment where one then feels that he cannot soon make the change to a newer, or what even may be a more effective learning system for the simple reason that too great a cost was laid out earlier to purchase durable items.

From our own experience it is apparent that having a product such as a textbook on the state adoption list or having it compatible with the state guide will directly affect the adoption of the product. The cases that are almost classic in science have to do with BSCS and several states that felt that these materials for regional cultural reasons were not appropriate. This certainly kept the adoption of that series from occuring as rapidly as it might have otherwise. A situation now developing in at least two and possibly more states, has to do with a question as basic as the creation of life. It asks whether or not textbooks can be used if the Biblical theory is not spelled out on equal time with that of evolutionary theory. Under the laws of these states certain products could be excluded no matter how good or how bad they might be otherwise.

Another characteristic of educational products that makes them more or less likely to be diffused is realted to how widespread their use is already. If the item has been around for a long number of years and is only being up-dated and corrected it may very easily go right into the system. Additionally if the item is one that is only used in a very narrow subject matter area and las little application otherwise, it may be more difficult for other groups with similar interests to even know it exists. Certainly its availability on the market would enter into the picture also. After the initial passing of the NDEA Act there was a number of science equipment supply houses that could not meet the distribution demands of their quantity of sales. A large number of school districts would order materials in the spring semester for the upcoming fall term and not have gotten delivery until the following spring a year later. This was not an isolated situation but, unfortunately, a very common one for several years. Many companies became successful over-night or became immediate failures because of their ability to deliver or not deliver goods on time. These may not be characteristics only of the product but also of the producer of the product which need to be considered in the early planning stages.

3.0 Product Characteristics: What are the characteristics of educational products that make them more or less likely to be diffused?

It is practically impossible to isolate a particular characteristic of a product and demonstrate that its success or failure is due to this alone because there are simply too many variables. It is possible, however, to identify products that did not "sell" for one reason or another. The secondary school science projects that developed short books (PSSC Physics, CHEM Study) or a pamphlet series (BSCS) to complement or supplement their textbooks, have had disappointing sales. Teachers fail to see the advantage of these materials, do not know how to work them into the course, or find them difficult to manage. On the other hand, none of the science curriculum projects has produced a guide on either the educational value of or how to incorporate these materials into an ongoing science course.

All of the new science curricula have an array of hardware for carrying out experiments or some concrete activity. At the elementary school level this takes the form of a kit of supplies for each section of work. They are essential because the modern elementary school science programs are taught without textbooks in the usual sense; instead there are pupil

manuals and teacher guides. Kits are costly in the first place, and some supplies must be replaced each year. If the pupil manuals and the kit costs per class are combined, they about match the cost of a class set of conventional science textbooks. However, a major difficulty in diffusing these programs is the cost of the kit. It has long been a tradition in elementary science teaching for the teacher to scrounge around and find his own materials which of course cost the school district practically nothing. Teachers look for kits that are designed to provide for the permanent storage of materials. They also want sections or drawers of the kit coded to identify with particular lessons and for getting materials in the proper place after using.

From the onset of the new secondary school science curriculum projects a major effort was made to develop simple and inexpensive equipment and to lower the cost of implementing the new program compared with conventional courses in the same subject. Schools changing from a traditional program to a new one did have some additional equipment costs, but they were fairly minor. The difficulties experienced were more with the change in educational rationale for using the equipment in carrying on investigations or experiments. Teachers were not used, for example, to thinking about the limitations of measuring devices on the nature of the observations that were made. The developers' attempt to get away from the "black-box"

notion of equipment to a simple device that was in itself a part of the experiment was not appreciated by a large per cent of science teachers.

The BSCS Laboratory Block concept is an example of a product where the time factor (six weeks of instruction) limited its use in high schools. A block is essentially a "mini-course" built around a single topic (field ecology, plant development, animal behavior, etc.); here the student gathers about 90 per cent of the information he needs through carrying out an interlocking series of investigations. He is truly an independent learner when it comes to achieving the concepts that arise from his involvement with the activities of the block. Teachers found it difficult to schedule a "block" into their biology courses, although the BSCS prepared a special publication to illustrate a number of ways for doing so. The assembling of supplies, keeping organisms alive and healthy in the classroom, room management, schedule interruptions, lack of teacher preparation time and a host of other factors minimized the use of blocks. They did, however, become a successful innovation in beginning college level biology courses. The availability of laboratory assistants and rooms where equipment could be left "set-up" solved the management problems experienced by high school teachers.

The AAAS Science: A Process Approach is a six- to eight-year elementary school science program organized in terms of

a hierarchy of behaviors. Each pupil exercise is basic to the next and related to one or more other behaviors also in a sequence. To adopt the program means not only a commitment to a prescribed sequence but also one extending over several years. Consequently, the program has had limited appeal to teachers. The "process" approach of the AAAS curriculum is confusing to elementary school teachers; they see science as a noun, not as a verb.

The recent wave of anti-evolution sentiment has resulted in the removal of BSCS textbooks from state adoption lists (Texas, for example). The California State Board of Education has sought to bar all science textbooks unless they conform to the Board's interpretation of how the theory of evolution ought to be presented. Seven states have or are in the process of seeking to limit the use of science textbooks which do not include a religious interpretation of man's origin.

Changing points of view about what is important for general education and how teaching should take place influence the acceptance of new programs and outmode others, in some cases before they have been completely developed. Consider, for example, some of the pressures on curriculum during the 1960's and as they are viewed in the 1970's in relation to the teaching of science.

3.0

1960's	1970's
1. Courses--discipline centered	1. Courses--socially or culturally centered
2. "Pure" science, technology omitted	2. An emphasis upon technology and its interaction with science principles
3. Development of inquiry skills	3. Development of decision making skills
4. Courses organized and sequenced in terms of conceptual themes	4. Courses flexible and organized as independent modules
5. etc., etc.	5. etc., etc.

The biology curriculum is being influenced by the environmental movement, issues of bioethics, the concerns about drug usage and the stress on human ecology. The cultural shift occurring circa 1968, if reflected in school curricula, would outmode most of the so-called "new" science programs. Add to this the pressures for individualization, personalization, local adaptability, and career orientation, and what is required for the successful diffusion of an educational product changes almost overnight.

At the time the BSCS was developing its "slow learner biology program (Biological Science: Patterns and Processes) in 1962 there was a sudden lessening of emphasis on programs for gifted students and a new concern for the non-academic student. There had been some preliminary announcements about

BSCS plans for the slow learner, but no materials available for distribution; however, over 1000 schools wrote the BSCS stating they were ready to adopt the program. This is one of the few science programs I know that had its origin in the expressed needs of schools. A second was the BSCS product for gifted students -- Research Problems in Biology: Investigations for Students. The third, and most recent, is the BSCS ME NOW life sciences project for the educable mentally retarded. The successful diffusion of these programs has resulted largely from having an acceptable educational product at the right time. It is evident that successful introduction of a new product may at times lie outside of the product itself.

3.0 Product Characteristics -

Product size alone does not seem to affect its liklihood of being used. It does, however, seem important that the innovation is packaged in a way that fits local needs. The policy in some school districts is to buy only hardcover textbooks. Some teachers told me they would not even look in a hardback book because "they are all alike." They were quite receptive to paperbacks, as they said students are more willing to read them. Some teachers wanted a book to fit their one semester government course while others wanted one for their year long course, and still others wanted material to fit four, six and nine week courses. Frequently the primary concern seems to be, "does the package fit our needs?" and if it passes that test, then the content of the material is examined.

As I traveled around the country, the new materials that appear to be in the most classrooms are the AEP booklets. Most teachers do not realize that the approach of the Harvard Public Issues booklets is significantly different from that of the other booklets. The package fits a variety of needs.

Cost seems to be the final consideration in making a decision to adopt new social studies innovations. After people have decided that the material is compatible with their needs and values, and that it has other advantages over alternatives, then they consider the cost. An increasing number of schools

seem to buy a single set of materials that are used by several classes, or kept in a resource center, which minimizes cost. Of the many concerns I heard expressed by hundreds of people to whom I presented American Political Behavior, no one ever said "it costs too much."

I have heard some teachers complain that paperback books are not durable enough for students, but I sense that is a rationalization for not liking material which they object to for other real reasons. Some who are uncomfortable with the techniques and approaches of new materials find it more acceptable to object to durability of materials than to inquiry within their department. The "new social studies" material that appears to have most successfully diffused into American classrooms is among the least durable, so decisions to adopt are apparently made on other bases. If teachers and students like the materials, they will re-staple and re-glue them, and continue to order more.

The perceived complexity of a product seems to be an important consideration in the adoption decision. If the potential users believe that the material will be difficult for either teachers or students to understand or use, they will not adopt it. In giving hundreds of presentations on American Political Behavior the most frequent objection I heard was "our students cannot read material at a ninth grade ability level." Many teachers

reported that they had tried some of "the new social studies" materials in their classes, but the materials were just too difficult for the students - either because of the tasks required or the reading level. I was curious as to why I saw so few copies of a new world history program in classrooms - it was packaged in small units, and contained inquiry teaching-learning as did more widely diffused material. I was told by several decision-makers that it was simply too difficult for students.

In a very few suburban school districts around the country, teachers felt that American Political Behavior was overly simple for their students. There was a similar concern at a private school in Washington, D.C. where students intern "on the hill." In some instances lack of complexity may be a real concern that affects adoption decisions.

With the exception of simulations, I have never heard teachers say that new social studies materials are too difficult for them to understand and use. However, in speaking of various programs teachers often comment on what a great help a detailed teachers guide is. Teachers who felt a bit insecure about trying a new approach were appreciative of the teachers guide with daily lesson plans for American Political Behavior, and those who had tried the material often said that it was extremely helpful to them and they planned to continue. Social studies field agents

and teachers in their schools have been impressed with People Make A Nation, but continually note that a more comprehensive teachers guide is needed. I suspect that perceived complexity is particularly salient during trial and will determine whether adoption or discontinuance follows.

One school I visited mentioned that they used to have some of the new process programs in science, but they discontinued their use because they continued to demand too much teacher time and work. In a pilot test I recently conducted of teachers' perceptions of new social studies materials, some teachers noted that they liked the new programs because they made their job easier; they no longer had to "scrounge" all over for primary sources. Some people were impressed that daily lesson plans and a set of (already written) tests accompanied American Political Behavior, which would make their job easier. On the other hand, some teachers in my recent field test noted that some new programs require more teacher time and effort than did what they used previously. They felt that, in spite of the extra demands, using the new programs was worthwhile. With some teachers and in some schools, materials are more likely to be adopted if they make the teacher's job easier; however, there are many for whom that is not the most important factor for adoption.

In some states, state money can be used to purchase only

books on a state adopted list, and few schools are financially able to buy materials without state money. In other states, like Indiana, schools can apply for waivers and in other ways circumvent the state policy, but most of the potential adopters in the schools believe they can use only adopted texts. In other schools decision-makers do not consider looking beyond the adoption list. By tradition they have always selected their materials from the state or county list.

Compatibility with state or local guides or with the curriculum of a particular school seems to be of primary importance in adoption. American Political Behavior was developed for ninth grade civics courses. In New York, schools considered using parts IV and V in their 11th grade American Studies course because the topics were compatible with the state guide. They would use parts I, II, III and VI in their twelfth grade government course. In other states, many districts wanted to adopt the second half of the program only; the content was compatible with their guides for government courses, and their curriculum guides did not outline the topics social science methodology, political socialization and others contained in the first part of the program. One city guide recommends study of elections, the Presidency and Congress, at the eighth grade. The program was compatible with the eighth grade guide and was adopted for that

course. Another city adopted the first half of the program because it was compatible with their ninth grade course Introduction to the Social Sciences. Most districts adopted the program because it was compatible with their local guides for ninth grade civics or twelfth grade government.

Compatibility with the schools' needs is broader than with the curriculum guide. Compatibility with the school structure is of primary importance to adoption, also. Schools that have modular scheduling, large and small group instruction, nine week or six week courses, or where the class meets together only one day a week for three hours would adopt the program only if it could be easily used to fit their particular structure.

Compatibility with previous experience and with the adopters' values has been suggested to be important to adoption.[1] Teachers who were used to having a glossary of terms were skeptical about American Political Behavior because it taught concepts with which they were not familiar and, it did not have a glossary. Some teachers wanted to use the new program to supplement the text they used previously. Many liked the motivational activities and approach in the new program, but were concerned that students would not learn the facts that the class had usually covered. In his

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[1]Everett Rogers and F. Floyd Shoemaker, Communication of Innovations: A Cross-Cultural Approach, The Free Press, 1971, p145.

study of the diffusion of the Georgia Anthropology Project, Richburg found that most adopters of the new program had had previous experience with other social studies innovations.[2] In my travels, it often appeared that those who adopted one product of the "new social studies" had adopted several and were anxious to try others. Other districts had none. This may be a phenomena of either being in the information network or of the importance of compatibility with previous experience. In my recent pilot study, several teachers said they had not had experiences with anything like the new programs, but that had not been a barrier once they became aware of an innovation that seemed to fit their needs.

Compatibility with values is crucial to adoption, I believe. If potential adopters believed that social studies programs should teach social science methodology and concepts, then they were extremely receptive to American Political Behavior (APB). If they felt that a main function of government courses was to teach students facts about state and local government or to teach the "isms", then they were usually not interested in the program. Teachers in field agents' schools who think students ought to deal with value dilemmas have been extremely receptive

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[2]Richburg, J. R, Curriculum Diffusion: Dissemination and Adoption of Materials in the Anthropology Curriculum Project, Unpublished Masters Thesis, University of Georgia, Athens, 1969.

to the Harvard Public Issues materials - as a high school teacher in Kentucky four years ago that was my primary concern.

Many people who examined APB developed positive attitudes toward it because Blacks were well represented throughout the text; others did not want to purchase the supporting transparencies because of the paucity of pictures of black people and of black symbols. I find that I am hostile to materials that omit female leaders and present only women in stereotypic roles.

As a change agent I found the most effective strategy to be to find out the values and concerns of the audience, and then plan a message that would captialize on the compatibility of the new material with their needs and values.

We should not overlook the sincere concern of most social studies teachers that student learning will be greater with the particular material adopted than with all the alternatives. Teachers want to know "will it teach what I think students ought to learn (compatibility with values) better than the alternatives (relative advantage)?" Many people with whom I spoke about APB were impressed with the evaluation studies that had been done on the effectiveness of the program. Many school districts are piloting new programs in a single class and evaluating student learning before they make the decision to adopt system wide.

Most of what I have reported here are hypotheses generated

from studies of the literature and personal experience. By the time of the conference, I hope to have some empirical data on the relation between potential adopters' perceptions of the characteristics of new social studies materials and their adoption.

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelihood of being used? (small one week program, full year program, complete series--K-6, etc.)?

The feedback that I receive on this point from teachers in the field is mixed. Where an individual teacher wants to supplement an already organized framework for a semester's or year's course, she may look favorably on the idea of a unit or episode of fairly short duration (one to three weeks) to plug into the existing course. The episodes produced by the Sociological Resources for the Social Studies fall into this category.

Some prospective users may be members of a textbook selection committee or a curriculum revision committee. In these instances they tend to look more at a complete series or full year programs. I have met with members of several such committees who examined and in some cases adopted such programs as the Senesh SRA, MACOS, and the Michigan Elementary Social Science. As a rule those interested in elementary school materials think series, those interested in secondary school materials think of something less than a series.

3.2 What are some of the dimensions of cost that affect the sale of a product?

My first inclination in responding to this question was to establish a kind of rule of thumb: In wealthy school districts costs are of relatively less concern than in poorer districts. But the availability of Federal funds in some districts invalidates this as a sure-fire generalization. About a year ago I consulted with a curriculum revision group in several small south Carolina communities. Although the costs of materials was a factor in their selection it was not necessarily the most significant factor.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use?

Generally speaking the adoption of a product is an inverse relation to its complexity. I once taught on an experimental basis the SRSS episode Testing for

Truth: A Study of Hypothesis Evaluation in a high school social studies classroom. I would judge the experiment to be neither a howling success nor a complete flop. In fact, many students commented very favorably on the unit and indicated that for the first time in their social studies program they were producing social science data instead of consuming it. But the important point, as far as diffusion is concerned, is that the regular classroom teacher whose class I took over and the other social studies teachers in this particular school were reluctant to continue teaching this particular episode primarily because they judged it to be too complex or abstruse for most high school students.

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

The general effect here is to encourage a teacher to adopt a product if it makes the teacher's job easier. The project that comes to my mind here is Economics in Society (formerly Econ 12). Some of the visual presentations that accompany this project (for example, the movie on Model Man) make it much easier for the teachers to deal with the concept of models in economics analysis.

3.5 No data available

3.6 No data available

3.0 PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelihood of being used? (small one week program, full year program, complete series--K-6, etc.?)

Having developed a small enrichment-type product, I think, that the size in relation to other aspects such as year-long or wide age level range, K-6, etc., does not particularly affect the diffusion of the product.

3.2 What are some of the dimensions of cost that affect the sale of a product?

Cost does affect the diffusion of the product. I would point to Man: A Course of Study and the MATCH Kits as an example of very expensive products and whose distribution was inhibited by high cost of product.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use?

When products have many elements and cover wide age and subject matter ranges, I think their use in the curriculum can become confused in the minds of teachers--elementary and secondary. Also, when products require extensive audio-visual equipment this alters interest in them.

3.4 If the product makes the teacher's job easier, what effect does this have on its use?

This definitely makes it more attractive to adoption.

3.5 How does the durability of the product affect its adoption?

This is very important. Cost conscious school districts are anxious to make investments that last.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption?

Recognition and support by state guides or adoption lists is very important and an effective means toward adoption of materials. Almost everywhere my world-mindedness materials have been noticed or used it seems because the curriculum guide in either state or local areas are calling for this subject area or approach.

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PRODUCT CHARACTERISTICS: WHAT ARE THE CHARACTERISTICS OF EDUCATIONAL PRODUCTS THAT MAKE THEM MORE OR LESS LIKELY TO BE DIFFUSED?

3.1 What does the size of the product have to do with its likelyhood of being used?
The ESS Science program is used by more schools than the other 3 combined. Programs made up of somewhat independent parts can be used on a trial basis, can be used to augment existing programs, require minimum in-service training for teachers, and piece by piece represent far less of an "investment commitment" than does an undissectable K-6 package.

3.2 What are the dimesions of cost that affect the sale of a product?
Major - to say the least. When one considers that most schools operate on continuing budgets, there is little likelyhood that a school would be able to amass enough money to purchase a total materials-based program at any one time.

3.3 How does the complexity of a product affect its adoption or adaptation for classroom use?
The more complex the product, the more difficult to implement. Implementation is a complex process and involves far more that minimal in-service programs.

3.4 If the product makes the teacher's job easier, what effect does this have on its use. Perhaps the best answer lies in the findings of Herb Smith in his study related to the way dollars under the NDEA program were spent. As I recall, about 80% were spent on AV materials.

3.5 How does the durability of the product affect its adoption? I don't think this is a major factor except in states where such requirements as "hard-cover text books" are included in the initial selection criteria. I think the "patina" of the materials is far more critical than the durability.

3.6 To what extent does being on a state adoption list, or being compatible with a state guide, affect adoption of a product?
Although I do not know the exact number, not many states have rigorous state adoption procedures. In most states recommendations are made to schools and the schools can follow or deviate from the recommendations. In the few states, Calif and Texas for example, where fairly rigorous state adoption procedures are followed, materials not on the list can not be used (or purchased with state funds.)

3.7 Others
To what extent does the teacher training institutions recommendations for teachers-in-training have on subsequent adoptions? My experience indicates that the recommendations can have a major effect on subsequent adoptions. Unfortunately, the ERIC survey indicates that less than half of the methodology instructors know of contemporary curriculum materials.

3. PRODUCT CHARACTERISTICS

a. Completeness.

(1) The most recent materials are more complete (Fenton slow learner materials as compared to early Fenton materials.) Not as much is left up to the teachers. Fulfill the Morrissett categories more completely. Have more developed rationale, objectives, and modified inquiring materials. They are being adopted more.

(2) Almost conversley. Teachers feel it is not personally respectable for them to teach materials unless they adopt them to their own use - they add, delete, even pirate. There is a similarity with the producers of cake mixes. They find that unless the housewife adds the egg and milk she feels reduced to an automat. Supposedly they have increased sales by not including the egg and milk.

In our area the new social studies materials are being used more as supplements than as a whole package.

Being on the adoption list is not as crucial for supplementary materials as for text adoption in key courses.

b. Format.
AEP materials made great strides by choosing the pamphlet format and making them very inexpensive as well as interesting. Yet the Mehlinger materials have chosen the expensive hardback route and seem to be enjoying a most favorable dissemination. (Content and promotion seem to account for this.)

C. Respectability.
There needs to be an aura of importance. The production shop may be in a remote spot but it needs to be perceived as a dynamic spot.

d. Ease of getting into the materials or of perceiving the concept.
If teacher has to read alot before he/she gets into the lessons the teacher becomes discouraged.

3.0 Product Characteristics: What are the characteristics of educational products that make them more or less likely to be diffused?

3.1 The present status of social studies curricula (K-12) indicates that small single unit or episode products will be most readily adopted in secondary school social studies programs; whereas, complete series (k-6) are most likely to be adopted for elementary social studies use.

3.2 Assuming a superior product, as long as it costs less than, equal to, or only slightly more than existing products it will have a fair chance of adoption. On this premise, the HSGP course has much less chance of adoption than the SRSS episodes.

3.3 Any superior product (demonstrated or perceived) that is described and advertised in relatively simple and understandable language, and which connects with the past experiences of the users is likely to be adopted. For example, the complex understanding and skills required of teachers in the TABA elementary social studies curriculum makes its adoption unlikely except as adoption is preceded by extensive inservice workshops and programs for teachers.

3.4 It is difficult to imagine any product that would make a teacher's (or any other user's) job easier other than some form of automaton that would release the user's time for creative production or adaptation of existing materials. It would appear that the introduction of any new product in a service enterprise such as teaching requires a concomitant change in the user's behavior. Changing behavior is never easy!

3.5 Not too many years ago, the durability of student textbooks was a key criterion for adoption. This point of view, however, has changed recently to the point that a variety of materials (even paperback books in libraries) is preferred to durability of binding. Of course, one might cite the small "Lego" pieces used in the Portsville exercise in HSGP where teachers find the loss of these pieces to be a critical problem from one classroom use to the next.

3.6 There is no doubt that, in terms of educational products (K-12), if the product is on a state adoption list (for those states still using these lists) or is referenced through a state curriculum guide, its chances of adoption will be enhanced.

3.7 Expendable items such as individual work sheets or booklets are not generally appealing to publishers, purchasing agents, or school asministrators.